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Differentiating Everyday Lies:

A Typology of Lies Based on Beneficiary and Motivation

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Abstract

We propose a typology of lies that distinguishes six kinds of these in terms of beneficiary (self, Pareto, other) and motivation (protective vs. beneficial). We gathered data from a daily diary study (N = 81). Distinct individual differences were related to specific types of lies,

showcasing the importance of distinguishing between types of lies. Low self-esteem, high anxiety, and high Machiavellianism involved frequent use of beneficial lies. Conversely, protective lies were negatively related to Machiavellianism and positively to empathy. Self-oriented beneficial lies were related positively to Machiavellianism in particular. Empathy was related to the use of other-oriented protective lies. These results give new insight into the processes that trigger lies and help to integrate and structure research on lying.

Keywords: lies; lying; self-other; regulatory focus; individual differences

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Are self-oriented lies a homogeneous type of deception? Consider the example of a man saying that he doesn't mind staying late at work and doing extra hours when in fact he is very tired and simply does it not to lose his job; and then consider another man that claims he possesses the qualities necessary to get a promotion, though in reality he lacks them. The beneficiary of the lie in both cases is the liar, yet the motivation to lie fundamentally differs.

We propose that everyday lies are considerably heterogeneous. In particular, we advance and test conceptual distinctions between lies on the basis of (a) their beneficiary and (b) their motivational underpinnings. The typology of lies initially draws on promotion and prevention dimensions in self-regulation (Higgins, 1997; 1998) and existing research of lie differentiation (e.g., DePaulo, Kashy, Kirkendol, Wyer, & Epstein, 1996; Erat & Gneezy, 2011). Our model effectively distinguishes between protective and beneficial lies, and between lies that serve the self, others, or the collective. By extension, our proposed model makes connections between lying behavior, self-regulatory processes, individual differences, and the negotiation of social relations. This contributes to a better and more nuanced understanding of the psychological and social functions of this frequent yet controversial behavior. We first review literature that provides a basis and demonstrate the need for our typology of lies.

The Psychology of Lying

Lying is a particular form of dishonesty where people "intentionally try to mislead someone" (DePaulo et al.,, 1996, p.981; Ekman, 1985). The act of lying typically serves as an instrument to achieve a goal that seems difficult to achieve otherwise (Miller & Stiff, 1993). Although lying is common (DePaulo et al., 1996), people normatively disapprove of it (Erat & Gneezy, 2011; Lundquist, Ellingsen, Gribbe, & Johannesson, 2009) and tend to avoid situations that enable dishonesty (Shalvi, Handgraaf, & DeDreu, 2011). The result of this social and internalized disapproval of lying is that doing so is psychologically costly to

people. For example, a discovered lie is a serious interpersonal trust violation that is notoriously difficult to restore (Schweitzer, Hershey, & Bradlow, 2006), and liars risk failure to live up to their ideal selves (e.g., perceiving oneself as a decent person; Mazar & Ariely, 2006). Nonetheless, people are tempted to lie when doing so offers benefits that could not be achieved by truthful means. Essentially, people weight the costs and benefits of lying to decide whether or not to do so (Mazar, Amir, & Ariely, 2008).

Important individual differences exist in people's inclinations to lie (Halevy, Shalvi, & Verschuere, 2014; Hall, Park, Song, & Cody, 2010). For example, those who are more manipulative, sociable, and concerned with their self-presentation tend to lie more often (Kashy & DePaulo, 1996). Likewise, Machiavellianism is positively related to the *frequency* of lying (Giammarco, Atkinson, Baughman, Veselka, & Vernon, 2013; Porter, ten Brinke, Baker, & Wallace, 2011), whereas psychopathy and narcissism predict a perceived greater ability to lie *effectively* (Giammarco et al., 2013). Attachment-related anxiety is related to telling more everyday lies to strangers and best friends, whereas people with an avoidance attachment style (*ibidem*) lie more often to their romantic partners (Ennis et al., 2008). Clearly, lying behavior greatly varies from person to person.

Towards a Typology of Lies

Individual differences exist in general lying propensity. Furthermore, the relationships between individual differences and lying behavior also vary across contexts (e.g. Baughman, Jonason, Lyons, & Vernon, 2014; Jonason et al., 2014; McLeod & Genereux, 2008). For example, the probability of lying is strongly related to psychopathy in the mating context, whereas Machiavellianism plays this role in the academic context (Baughman et al., 2014). The reason why certain individual differences involve more lying in one context but not in another is rooted in the existence of different types of lies. For example, Machiavellianism is associated with telling white lies (Jonason et al., 2014) and, together with narcissism,

increases self-centered lying (lying strictly for one's own benefit). On the other hand, Machiavellianism does not correlate with telling lies that serve other people (Jonason et al., 2014; Kashy & DePaulo, 1996).

Clearly, the relation between individual differences and lying is not homogeneous, as there are different underlying motives for lying. These vary as a function of the characteristics of lies, indicating that distinguishing between types of lies is important in understanding their psychological significance. Although researchers have proposed a select range of lie types (e.g., Cantarero, Szarota, Stamkou, Navas, & Dominguez Espinosa, 2017; DePaulo et al., 1996), a comprehensive model that organizes types of lies is lacking. However, there is precedent for characterizing lies according to their underlying motivations and beneficiary (Arcimowicz, Cantarero, & Soroko, 2015; Camden, Motley, & Wilson, 1984). For example, the desire to acquire gains and the unwillingness to face a loss are argued to be factors that can tempt people to lie (e.g., Arcimowicz, Cantarero, & Soroko, 2015; Ekman, 1997). Likewise, lies that serve the self are viewed differently than lies that serve others (Lindskold & Walters, 1983). Yet, a formal typology of lies that incorporates different beneficiaries and motivations has not been developed and tested.

Differentiation by Beneficiary

There are different ways to conceptualize types of lies, and perhaps the most useful criterion is to use the beneficiary of the lie as a distinguishing characteristic. DePaulo et al. (1996) distinguish self-oriented from other-oriented lies, where the interests of either the liar or other(s) are taken into consideration. To be more precise: self-oriented lies are "told to protect or enhance the liars psychologically or to advantage or protect the liars interests" (Kashy & DePaulo, 1996, p. 1042). Other-oriented lies serve instead to benefit not the liar but another person. Erat and Gneezy (2011) describe a third type of lie termed Pareto lies. These

lies are aimed at helping both the liar and others. These lies are found to be used more often than altruistic lies, at least among children (Glatzle-Rutzler & Lergetporer, 2015).

The majority of lies benefit the self (Camden & Motley, 1984). Self-centered lies less often involve faking positive feelings than other-oriented lies (DePaulo et al., 1996). These other-oriented lies have an intriguing biological foundation: an increase in oxytocin – a hormone implicated in social bonding (Panksepp, 1992) – is related to more dishonesty for the benefit of a group (Shalvi & De Dreu, 2014). People are willing to engage in telling a Pareto lie to a lesser extent than telling a lie that benefits another person while being unfavorable for the liar (Erat & Gneezy, 2011). Interestingly, research by Lindskold and Walters (1983) is aligned with this distinction; they showed that people find lies aimed at protecting others to be the most acceptable, while lies that bring benefits to the liar while hurting another person are the least acceptable. In the same vein, research by Wiltermuth (2011) showed that because other-oriented dishonesty is seen as far more acceptable, cheating increases when people have a chance to indicate bringing benefits to others as a factor that influences their dishonesty. Furthermore, Weisel and Shalvi (2015) showed that collaboration, especially when the profits are similar to both parties, leads to higher levels of dishonesty. Overall, these findings suggest that the decision of whether to be honest or not is influenced by the person (or people) to whom the lie is supposed to bring benefits, among others.

Differentiation by Motivation

Besides differentiating lies in terms of their beneficiary, we propose a second important distinction: lying to obtain a desirable outcome versus lying to prevent an undesirable outcome. This novel proposal draws from regulatory focus theory (Higgins, 1997; 1998) and applies it to the context of lying behavior; there are good reasons to anticipate that such a distinction further qualifies lying behavior.

According to regulatory focus theory (Higgins, 1997; 1998), the pursuit of goals as part of self-regulation processes can be characterized by two motivational approaches: a *promotion focus* involves the pursuit of positive outcomes (e.g., obtaining gains); a *prevention focus* involves attempting to thwart negative outcomes (e.g., preventing losses). The foci discussed by Higgins (1997) include two end-state reference points, one for each regulatory focus. The desired end-state reference point for promotion focus is *accomplishment*, while for prevention focus it is *safety*. *Danger* is the undesired end-state point of reference for prevention focus and *unfulfillment* for the promotion focus. These foci vary both as a function of personality as well as context (Crowe & Higgins, 1997) and exert a profound influence on self-regulation behavior across domains (Higgins & Spiegel, 2004).

Why would regulatory focus be an important characteristic of lies? First of all, the social norms governing lying acceptance appear to vary between lies that could be labelled protective lies (prevention focused) and beneficial lies (promotion focused). Specifically, people find lies aimed at protection from harm more acceptable than lies that are aimed at gaining benefits (Lindskold & Walters, 1983). Consequently, the cost/benefit analysis that governs the decision to lie likely varies between protective and beneficial lies, with the former being associated with fewer personal and interpersonal costs. Second, researchers have found tentative evidence of a prevention/promotion distinction in lie types. Importantly, framing effects were found on dishonesty: people are more prone to cheat when the outcome is perceived as a loss than when it is framed in the gain domain (Folmer & De Cremer, 2012; Grolleau, Kocher, & Sutan, 2016). Additionally, Cole (2001) concluded that lying in romantic relationship is, among other reasons, related to avoiding punishment. Ekman (1997) also pointed out that the motivation to avoid punishment is mentioned most frequently as the motive for lying. Ekman argued that lies can in part be characterized as motivated by loss

aversion (including protection of the status quo). This suggests that a promotion versus prevention focus can be a fundamental basis for differentiating lying behavior.

Applying these orientations to telling the truth and lying shows how the decision whether to lie or tell the truth can be driven by different motivations (Table 1). Reaching the desired end-states is possible by using both truthful means and deception. Should reaching these points be impossible by truthful means, people can then resort to lying to achieve them.

Table 1

Two types of motivational focus of lying. The table is based on the illustration of different approach-avoidance orientations presented in: Higgins, 1997, p. 1297

	Regulatory reference	
Motivation focus, two types of lies and their short-term consequences	Desired end-state reference point	Undesired end-state reference point
Gain	Accomplishment	Nonfulfillment
Beneficial lies	I lie because it allows me to gain X.	I gain less than X because I did not lie.
Short-term consequences	My situation improves.	My situation did not improve.
Loss aversion	Safety	Danger
Protective lies	I lie not to lose X, to maintain status quo.	I lose something because I did not lie.
Short-term consequences	My situation stays the same.	My situation worsens.

Beneficial lies are aimed at providing gains at least in a short-term. That is, telling such lies is plausible when a liar perceives them as an opportunity to acquire additional

profits, material or psychological. Should a person refrain from such a lie, they may view their situation as not having improved. Thus, a desire to improve the current situation serves as cause for beneficial lies, while refraining from lying means missing a chance to gain. Consistently, studies by Effron, Bryan, and Murninghan (2015) show that anticipated regret is related to dishonesty (*the cheat-at-the-end effect*). Protective lies differ from beneficial ones. People are more likely to use a protective lie when they perceive a situation as threatening to their present state. The threat does not have to be understood only as a physical one, but can be of a different, including psychological, nature. Not lying in such instances involves the risk of worsening the situation. Therefore, using a protective lie can be seen as reaching for a last resort, whereas using a beneficial lie is more proactive and aimed at providing additional gains.

Lies are told to bring positive outcomes (which include both gains and loss aversion) that cannot be reached by truthful means (Miller & Stiff, 1993). Long-term consequences of lies of the two types of motivations should depend highly on whether a lie is discovered or not. It is probable that the consequences for both protective and beneficial lies are similar to short-term consequences when the lie goes undiscovered. Should the truth be revealed, however, it ought to result in different consequences for the liar. Research shows that people show more understanding for lies that are aimed at protection than at bringing benefits (Lindskold & Walters, 1983). A beneficial lie should then entail much more severe consequences and result in worsening the liar's situation. A protective lie, on the other hand, should be perceived as more understandable and not so severely punished. As a consequence, the benefits from an uncovered lie should be greater in case of beneficial lies, while the loss when a lie is exposed should be greater in the case of beneficial lies.

Adding this motivational dimension is important for understanding the phenomenon of lying. It shows that lies aimed at one type of beneficiary can vary significantly and that this

difference has further implications. Protective and beneficial lies are not driven by the same type of motivation, and as a consequence individual differences can explain the differences in the use of these lies in everyday life.

Lie Types and Predictions

Together, this categorization based on beneficiary (self-oriented vs other-oriented vs Pareto) and motivation (regulatory focus of promotion and prevention, i.e., willingness to gain vs loss aversion) creates six types of lies (Figure 1). *Self-oriented beneficial lies* are characterized by the pursuit of positive outcomes for the self (e.g., falsely claiming that a found sum of money is one's own). *Self-oriented protective lies*, on the other hand, are directed at avoiding a negative self-outcome (e.g., falsely denying that one has broken a valuable vase). *Beneficial other-oriented lies* are directed at securing positive outcomes for others (e.g., falsely telling a child that his drawing is the most beautiful in the world), whereas *protective other-oriented lies* are characterized by attempts to prevent harm to befall another person (e.g., falsely telling another person that she will most likely find her lost wallet). *Beneficial Pareto lies* tend to benefit both the liar and someone else (falsely claiming a prize for one's team). Finally, *protective Pareto lies* are characterized by attempts to prevent harm coming to oneself and another person (e.g., falsely claiming that you and your friends were not responsible for organizing last year's failed Christmas party).

The benefit of our typology of lies is that it clarifies an important part of the psychological process behind lying behavior: beneficiary and motivation. By doing so, it is possible to develop predictions about the relationships between individual differences and each type of lie. One of the benefits of the resulting model is that it allows to develop predictions about who will express specific lies, for example as a function of personality. Additionally, the proposed distinction of the types of lies can also serve future studies on situational cues that trigger the appearance of a given type of a lie. In the present study we

were interested in seeing whether specific types of lies are used more often by people possessing certain personality traits. We tested this at the level of the six specific types, as well as for lie types generally grouped by beneficiary or motivation. As part of this empirical quest, we correlated lying behavior with the personality variables *Machiavellianism*, *self-control*, *social desirability*, *empathy*, *self-esteem*, and *anxiety*.

Machiavellianism

Drawing on the results of earlier studies (Kashy & DePaulo, 1996), we predicted that Machiavellianism would be positively correlated with more frequent self-oriented lying in general. Machiavellianism is often associated with using a variety of unethical or socially offensive tactics to achieve power or status (Kaestner, Rosen, Appel, & Sofer, 1977). Low Machiavellianism was found to be related to trust reciprocation in a bargaining game (Gunnthorsdottir, McCabe, & Smith, 2002). Consistently, we expected that Machiavellian participants would be more likely to adopt deceptive communication in their everyday life (i.e., self-oriented lies). We expected that Machiavellianism would promote the use of beneficial lies in general. Since these lies are aimed at bringing benefits, the goal of these lies should serve as a very good reason to resort to lying for those high on Machiavellianism and thus they should be especially eager to use beneficial lies.

We expected that the main difference when considering our typology of lies would emerge between self-oriented beneficial and self-oriented protective lies. Self-oriented beneficial lies are likely to be especially related to Machiavellianism as opposed to self-oriented protective lies. In the case of self-oriented beneficial lies, the manipulative function of lying is particularly prominent as these lies facilitate the acquisition of new short-term gains. People who are more manipulative are arguably more inclined to use a situation that allows them to achieve certain aims, even if they are of a short-term nature. These kinds of lies are hence not driven by the aversion of losing something, but by the urge of profiting; one

of the best tools for this may be exactly this type of a lie. The use of a beneficial lie should thus be more common for people high in Machiavellianism.

Self-Control

Effective self-control involves the ability to restrain from responding with automatic impulses and habits in the service of long-term goal attainment (Tangney, Baumeister, & Boone, 2004). Self-control relates to lying. For example, ego-depletion, which temporarily hampers self-control ability, fosters egoistic lies (Mead et al., 2009). Interestingly, the proneness to use other-oriented lies diminishes when self-control resources are limited (Cantarero & Van Tilburg, 2014). Accordingly, we expected that higher self-control capacity would be associated with a lower tendency to lie in general, but also that higher self-control would be linked with the less frequent the use of self-oriented lies and more frequent use of other-oriented lies. We made no specific predictions regarding beneficial and protective lies and self-control.

Social Desirability

Social desirability is a construct related to the way people would like to be seen by others (Mazilescu & Gangloff, 2012). It reflects the extent to which people like others to approve of them. We predicted that social desirability would be negatively related to the willingness to produce self-oriented lies as these are the ones most negatively perceived by others (e.g., Inglehart, Basanez, & Moreno, 1998). Additionally, we predicted that higher social desirability would be accompanied by fewer admitted instances of lying. We expected this latter effect because participants may refrain from both producing and reporting the telling of lies driven by the desire to maintain a positive social image.

Empathy

Because empathy involves the ability to understand other people's views and their needs and emotions – which includes the tendency to avoiding harming others – we expected

that using other-oriented lies would be related to higher empathy (Carre, Stefaniak, D'Ambrosio, Bensalah, & Beshe-Richard, 2013). In this case the goal of the lie is to bring benefits to another person (or protect them from harm). More empathic people should be more eager to use these lies in order to help others. We made no specific predictions regarding empathy and beneficial vs protective lies.

Self-Esteem

Self-esteem involves a stable sense of personal worth or worthiness. Induced lower self-esteem can promote deceptive behavior aimed at bringing benefits (Aronson & Mettee, 1968), and we therefore expected such a compensatory tendency in general, leading to an association between self-esteem and beneficial lies. We proposed that the lower the self-esteem, the higher the tendency to use beneficial lies, since they may give a self-esteem boost by providing a profit. We anticipated more self-oriented beneficial lies when self-esteem is low. More precisely, self-oriented beneficial lies should be related to lower self-esteem, allowing these short-term benefits to reach the liar.

Anxiety

Since high anxiety is often referred to as feelings of discomfort, nervousness or even fear (e.g., Endler & Kocovski, 2001), we anticipated that more beneficial lies are told by those high in anxiety. Highly anxious individuals may resort to beneficial lies for various reasons. Most of all, as Kashy and DePaulo (1996) argued previously that, as a product of insecurity, self-oriented lies can help in claiming a more positive identity. This can be manifested by resorting to beneficial lies, when faced with a situation where lying can improve one's situation. Beneficial self-oriented lies can serve as tools helping to create such a situation, even if the results are related to only short-term profits. Lower self-esteem and higher anxiety may result in proneness to use such beneficial lies, and their function is rather compensatory.

That is, they may bring a self-esteem boost or an added value that serves short-term goals, not necessarily long-term benefits.

We conducted a daily diary study to verify the predictions holding that individual differences would relate to specific types of lies.

The Present Study

The aim of this study was twofold. First of all, we gathered lies from everyday life contexts and tested whether the proposed typology of could be applied to them. Secondly, we examined if the individual differences discussed above indeed correlate with particular groups or types of lies.

Method

Participants and Recruitment

Eighty-three people (55 women) participated in a study on social interactions at a university in Poland. The age of the participants ranged from 18 to 64 (M = 29.96, SD = 12.09). For recruitment, we placed ads in local newspapers and local internet sites. The ads specified that we were looking for participants for a social scientific study on social contacts. We wrote that the participants' task would be to keep a diary of certain social interactions, mainly conversations, over a period of one week. We assured participants that the research would not impede their work and that they would spend about 30 minutes a day on participation. Participants were given 130PLN (~€30) for taking part. Two participants resigned from the study after the initial informational meeting, resulting in a final sample of 81 participants.

Procedure

The procedure was adapted from DePaulo et al. (1996). We first held 1.5-2 hour long information meetings with groups of up to 11 people during which we explained the study procedure. Participants were requested to record their social interactions, their instances of

lying, and their reasons for these lies, during a period of one week. They used a small "pocket size" paper diary for this purpose. They then uploaded their notes into an online diary. The online diary was a web page designed especially for the purposes of the study. Participants accessed the online diary using individual logins and passwords, and we encouraged them to complete the virtual diary at least once a day.

To facilitate understanding, we defined "social interactions" in a similar manner as DePaulo and colleagues (1996): "By a social interaction we mean any situation in which two or more people are involved, and are reacting or responding to one another for a minimum duration of ten minutes" (see also Moskowitz & Sadikaj, 2012, p.175). We defined the concept of "lies" for them based on Kashy and DePaulo (1996; Ekman, 1991): "A lie occurs anytime you intentionally try to mislead someone." These two definitions were followed by various examples and counter-examples (e.g., mistakes rather than lies). Participants were told that if they preferred not to describe a lie or not to give the reasons behind it, then they could list only essential aspects of it or write "Rather not say". Participants used the "Rather not say" phrase only five times regarding lie description and nine times when it came to stating the reasons behind a lie.

We ensured participants that the data would be used for scientific purposes only and they would remain anonymous (anonymous login, passwords that they changed after the first login). We assured participants that we were neither promoting not condemning lying; we were only interested in the phenomenon from a scientific point of view, and needed their help (DePaulo et al., 1996). We did not ask participants to return the diaries after the study. During the information meeting, participants were given hard copies of the instructions, definitions, and examples. The two definitions and the most important part of the instructions also featured in the pocket-size paper diary.

At the end of the information session participants completed various individual difference measures, described below. During the week, we sent daily reminders to participants about filling in the online diary. After logging in, participants could access the key definitions and examples as well as the other instructions, and, importantly, were given space to report their daily notes.[1]

Measures

We assessed Machiavellianism, the tendency to manipulate others to achieve personal goals, with a validated Polish translation (Pospiszyl, 2000; Rogoza & Cieciuch, 2018) of the Mach IV scale (Christie & Geis, 1970). This scale consists of 20 statements (e.g., "Never tell anyone that the reason you did something unless it is useful to do so", 1 = *totally agree*, 7 = *totally disagree*) and yielded sufficient reliability after exclusion of the item "Most men are courageous" ($\alpha = .70$)[2].

Participants next completed the self-control scale (Tangney, Baumeister, & Boone, 2004), which consists of 36 items (e.g., "I often interrupt people", 1 = *not like me*, 5 = *very much like me*). The scale was translated into Polish using a translation/back-translation procedure for the purposes of this study and demonstrated excellent reliability ($\alpha = .87$).

We measured people's tendency to present themselves favorably using the lie scale with 12 designated items from the validated Polish version (Jaworowska, 2011) of the Eysenck revised personality questionnaire (EPQ-R(S); Eysenck, & Eysenck, 2006). The EPQ-R(S) lie scale may be viewed as a tool for assessing when a person is "faking good", but it also may indicate social acquiescence or conformity (e.g., Jackson, & Francis, 1999). Participants indicated their agreement with 12 statements (e.g., "Have you ever blamed

[1]At the end of the week, participants completed other online measures (e.g., self-efficacy) related to research questions not examined in the current manuscript.
[2]The scale used with the excluded items shows internal consistency of $\alpha = .68$ and yields virtually identical results when used in the analysis. Details available upon request.

someone for doing something you knew was really your fault", *yes* vs *no*). The scale achieved reliability slightly below the acceptable α = .70 (α = .66), though similar to previous studies (e.g., Francis, Brown, & Philipchalk, 1992; Karanci, Dirik, & Yorulmaz, 2007; Tiwari, Singh, & Singh, 2009).

We measured empathy using the Polish version (Jaworowska, 2011) of Eysenck's impulsivity inventory (IVE, Eysenck, & Eysenck, 1991). The empathy scale consists of 19 statements ("Do you often get emotionally involved with your friends' problems?", *yes* vs *no*) and yielded good reliability (α = .75).

Next, we measured global self-esteem using the Polish version (Dzwonkowska, Lachowicz–Tabaczek, & Łaguna, 2008) of the Rosenberg self-esteem scale (1965). The scale contains 5 positively worded (e.g., "I feel I have a number of good qualities") and 5 negatively worded (e.g., "At times I think I am no good at all") items (1 = *strongly agree*, 4 = *strongly disagree*). The reliability of the scale after recoding negatively worded items was good (α = .82).

A Polish version (Wrześniewski, Sosnowski, Jaworowska, & Fecenec, 2006) of the state-trait anxiety inventory (STAI; Spielberger, Gorsuch, & Lushene, 1970) was next used to measure anxiety, a subjective feeling of tension, apprehension, nervousness, and worry. The measure contains 20 state anxiety items (e.g., "I feel upset", 1 = *not at all*, 4 = *very much so*) and 20 trait anxiety items (e.g., "I am a steady person", 1 = *almost never*, 4 = *almost always*). Both scales were reliable (α = .91, and α = .89, respectively).

Results

Our goal was to include three types of beneficiary: 1) self, 2) other, 3) self and other, and two types of motivation: 1) gains and 2) loss aversion. In the present study we mainly focused on self-oriented lies, however, as these should be the most frequent ones and also

because they allow us to show important differences when including individual differences and proneness to using specific types of lies of the proposed typology.

Types of Lies

Participants reported on an average of 6.62 (*SD* = 1.01) of the planned 7 days. A total of 2,039 interactions were recorded (on average 3.80 per day) and a total of 412 presumed lies were recorded (on average 0.74 per day). The proportion of lies per social interaction was 0.24 (*SD* = .18).

The recorded lies were sent to five competent judges, all psychologists, who were presented with the definitions of lying and the types of lies, as mentioned previously. The judges were asked to read all of the instances of presumed lies and reasons for telling a lie, as stated by participants, and were asked to categorize the lies into one of the categories: *self-oriented beneficial lie, self-oriented protective lie, other-oriented beneficial lie, other-oriented protective lie, Pareto beneficial lie, Pareto protective lie, other*, or *not a lie.* Adequate agreement, given the number of categories, existed amongst the judges (overall Fleiss' $\kappa = .45$). Based on these five judgments, each lie was assigned to its most frequently assigned category. Eleven of the recorded lies were not considered to be lies by the judges and were therefore dropped from further analysis. Of the remaining 401 lies, 41% (164 instances) were self-oriented protective lies, 19% (77 instances) were self-oriented beneficial lies, 15% (61 instances) were other-oriented protective lies, 7% (29 instances) were Pareto protective lies, 3% (14 instances) were other-oriented beneficial lies, 2% (9 instances) were Pareto beneficial lies, and 12% (47 instances) were other types of lies. The vast majority of lies could thus be assigned to one of the categories of the typology of lies, confirming the reasonableness of the proposed typology.

Types of Lies and Individual Differences

Next, we focused on the 354 lies that fell into one of the six main categories. We then calculated for each participant the number of lies for each category. We wanted to assess if, when people lie, certain types of lies would be used with greater frequency by people possessing certain personality characteristics. Following Kashy and DePaulo (1996) we first computed the participants' proportion of lies per social interaction, followed by proportions of specific lie types within their total amounts of lies. We subjected these proportions to non-parametric correlation analyses. The results are summarized in Table 2 in Supplementary Materials.

Machiavellianism. We found that overall frequency of lying was positively related with Machiavellianism at a trend level, $r_s(81) = .11$, $p = .159$. When we focused on the beneficiary only, Machiavellianism was not significantly related to the proportions of self-oriented lies, $r_s(71) = .01$, $p = .454$. However, gain versus loss motivation for lying was significantly related to this individual difference. People who scored higher on Machiavellianism used beneficial lies more often $r_s(71) = .23$, $p = .028$. The use of protective lies was negatively related to Machiavellianism $r_s(71) = -.20$, $p = .047$. Most importantly, we found that the more Machiavellian the participants were, the more often they used self-oriented beneficial lies $r_s(71) = .20$, $p = .046$. No such relation with Machiavellianism was found for the other types of lies.

Self-control. Higher levels of self-control among participants were associated with fewer lies per social interaction $r_s(81) = -.25$, $p = .013$. Additionally, the relationship between self-control and the use of self-oriented beneficial lies was marginally significant $r_s(71) = -.19$, $p = .057$.

Social desirability. The relationship between lying in general and social desirability $r_s(80) = -.17$, $p = .063$ did not reach statistical significance, indicating only a trend level.

Social desirability was negatively related to the proportion of self-oriented lies, $r_s(71) = -.21$, $p = .037$.

Empathy. The more empathic participants were, the more often they used other-oriented lies $r_s(66) = .29$, $p = .009$ and Pareto lies $r_s(66) = .26$, $p = .019$. Additionally, other-oriented protective lies were positively related to empathy $r_s(66) = .21$, $p = .043$.

Self-esteem. The overall use of lies and the beneficiary of the lie were not statistically related to self-esteem. However, lower self-esteem was linked with greater use of beneficial lies $r_s(71) = -.21$, $p = .042$. Additionally, self-oriented beneficial lies were negatively related to self-esteem at a trend level, $r_s(71) = -.15$, $p = .114$.

Anxiety. Anxiety was positively related to the use of beneficial lies, $r_s(67) = .22$, $p = .039$. There was also a relationship at a trend level between anxiety and the use of self-oriented beneficial lies, $r_s(67) = .12$, $p = .171$, and anxiety and the use self-oriented protective lies, $r_s(67) = -.14$, $p = .131$.

Additionally, the proportion of the use of each type of the six lies was either negatively related to the others or was not statistically related, which indicated its distinctiveness (Table 3). Spearman correlations between absolute frequencies of the lie types also suggested their considerable independence, r range = [-.11, .37].

Overall, our results show that the bidimensional matrix of motivation and beneficiary of a lie produces a typology that allows differentiation of lies and indicates that the categories of these lies relate in a dissimilar way to individual differences.[3]

[3] Gender differences were not the focus of our study, yet we report findings related to sex differences and the use of lies to further show the characteristics of the lies. There is mixed evidence of the general use of deception depending on gender. On the one hand, there is research showing that among children and adolescents gender does not differentiate between proneness to deceive (Bucciol & Piovesan, 2011). On the other hand, there is research that shows that men tend to be less honest when they can benefit from it (e.g., Grosh & Rau, 2017; see also Rosenbaum, Billinger, & Stieglitz, 2014 for an overview). There were no differences in the overall number of lies per social interaction $U = 662.50$, $p = .429$. Men record no other-

General Discussion

We tested a new typology of lies, characterized by the beneficiary of the lie and the motivation for lying behavior, which draws on the prevention/promotion regulatory focus. Participants maintained a diary of their social interactions and lies for a period of one week. We found that the most frequent category of everyday lies are protective self-oriented lies, then self-oriented beneficial lies, other-oriented protective, and finally Pareto protective lies. This indicates a few things. First of all, not surprisingly the majority of lies serve the liar, which is consistent with the notion that the self-interest norm influences people's behavior (Miller, 1999). That is, people act to maximize their own interest and self-oriented lies enable reaching this goal when truthful means fail to do so. Second of all, protective lies appear more frequently than beneficial lies, which may relate to the fact that the regulatory reference for these lies is safety and danger. This means that should an individual not resort to using such a protective lie, they will incur the risk of losing something. This result is consistent with findings that people in general avoid losses, and that losses have a bigger impact than gains (e.g., Tversky & Kahneman, 1991). Furthermore, a loss frame results in a higher probability of cheating than a gain frame (Folmer & De Cremer, 2012; Grolleau, Kocher, & Sutan, 2016; Kern & Chugh, 2009). For this reason, the most frequent appearance of protective self-oriented lies protects the two motives: of the self-interest norm and loss aversion. Our results support the notion that the tendency to approach gains versus avoid losses serves as a helpful tool when describing the motivation to lie.

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oriented beneficial lies nor Pareto beneficial lies. There were no significant differences as far as the use of other of the six types of lies are concerned. There were no significant differences in the use of aggregated promotion and protective lies by men and women. There were significant differences in the use of other-oriented lies. Men (M = .11, SD = .17, Mdn = 0) used them less frequently then women (M = .24, SD = .24, Mdn = .20), U = 526.50, z = -2.26, p = .024, r = -.25. There were no differences in the use of self-oriented and Pareto lies. These calculations were based on the proportion of the lies of a given category per overall number of interactions and not on the raw number of lies.

The results of our study showed that the overall number of lies per social interactions was negatively correlated with self-control. This confirms that lying relates to the ability to control one's impulses. We did not find a significant relationship between self-control and other-oriented lies, nor between self-control and self-oriented lies, though the direction of the relationship was as predicted. It is possible that when the beneficiary of the liar is included, situational influences on self-control may override dispositions. Indeed, previous studies show that situational depletion of self-control resources relates to self-oriented and other-oriented lies (Mead et al., 2009; Cantarero & Van Tilburg, 2014). Though the use of lies in general is related to dispositional self-control, the propensity to use more specific types of lies may be more related to situational than dispositional self-control resources.

Social desirability was negatively related to the use of self-oriented lies. This is consistent with the finding that these lies are more negatively viewed than other-oriented lies (Lindskold & Walters, 1983), which results in a weakened propensity to produce these lies by those who are especially eager to be perceived in a more favorable way. This result can also indicate that participants high on social desirability were less willing to report such lies. We found that empathy was related to a higher proneness to use both other-oriented and Pareto lies. There was also a positive correlation between protective lies and empathy, yet when the beneficiary of the lie was included, only the use of other-oriented and not self-oriented protective lies relates to empathy. This indicates that when a lie involves the interests of others, individuals who show a concern for others will be more eager to bear the costs of deviating from the truth. These results are consistent with findings showing that other-oriented lies are much different from the more prototypical self-oriented lies. People evaluate other-oriented lies as less of a lie than egoistic lies (Cantarero & Szarota, 2017). The former are even found to be more ethical than truth telling (Levine & Schweitzer, 2014). At the

interpersonal level, other-oriented lies can even breed benevolence-based trust (Levine & Schweitzer, 2015).

Lower self-esteem and higher anxiety related most strongly to greater use of beneficial lies. This may reflect that the role played by these lies is rather compensational, unlike with the use of protective lies. This finding supports the previously argued notion that one function of lies is to enable creation of a more impressive identity (Kashy & DePaulo, 1996). We showed that this is the case regarding beneficial lies, and not protective lies. Lies serve as a tool for achieving certain goals. Beneficial lies can enable additional gains and these may serve, among others, as means to acquire a more impressive identity. This finding is interesting and could benefit from more research in the future. Research by Lee, Gino, Jin, Rice, and Josephs (2015) indicates that the interaction of both high testosterone and high cortisol relates to higher probability to cheat in order to receive higher monetary *gains*. This finding is in line with our notion that beneficial lies have a compensatory function. The authors additionally show that the more participants cheated, the greater the decrease was in cortisol and negative affect after cheating; this indicates that acquiring new gains through deception brings additional short-term benefits to experiencing high stress levels, namely, reduction of stress and negative affect. These results also suggest a compensatory-like function of cheating to acquire gains.

As expected, the results showed that the more Machiavellian individuals were, the more they used beneficial lies. This supports our view that these lies differ importantly from protective lies. A beneficial lie is used though one does not have to (but wants to), whereas a protective lie is used when one has to (but does not want to). In this way, lying to acquire additional gains is more common for those who think that the ends justify the means. Furthermore, Machiavellianism was negatively related to the use of protective lies, indicating that the nature of these lies is far from manipulative. Machiavellianism was also positively

related to the use of self-oriented beneficial lies and not self-oriented protective lies, or self-oriented lies in general. The lack of a relationship between Machiavellianism and the proportion of self-oriented lies may reflect that not only the type of beneficiary of the lie is important in relation to this trait, but that the type of motivation should also be included to obtain a more precise understanding of the phenomenon.

We emphasize that our goal was to derive a typology of lies using regulatory foci as guiding principle, yet we do not see them as a straightforward reflection of the Regulatory Focus Theory. Most of all, anxiety relates to beneficial and protective lying in a different way than in promotion versus prevention regulatory focus (e.g., Klenk, Strauman, & Higgins, 2011). The promotion regulatory focus is said to be the result of nurturing caretaking of a child, whereas prevention regulation results from the presence or absence of situations with negative outcomes (Higgins, 1996; Manian, Papadakis, Strauman, & Essex, 2006). Research shows that the relationship between promotion focus and anxiety is negative (e.g. Kolanczyk, Bak, & Roczniewska, 2013). The presence of anxiety is said to inhibit the appearance of promotion focus aimed at reaching positive outcomes. In the case of deviations from truth, however, the more proactive, promotional attitude regarding lying is theorized to be related positively with anxiety, as stated previously. Our goal is to apply given aspects of regulatory focus theory to lying. The decision whether to lie or tell the truth is very different from a decision involving a choice between two truthful acts. For this reason, we do not see beneficial and protective lies as a direct application of promotion and prevention focus. We do think, however, that the aspect of aiming at acquiring gains and protecting from losses by using lying are important factors regarding the phenomenon of lying.

There are a few limitations to our research. First of all, the research was based on declarative data. Though we tried to ensure conditions in which participants would feel safe and the quality of the data was high, it should be taken into consideration that when the

gathered data does not enjoy social acceptance, situations where participants do not provide true data might occur. Nevertheless, previous studies have showed that self-reports on lying and ethical risk taking are indeed positively related with real-life cheating (Halevy, Shalvi, & Verschuere, 2014; Zimerman, Shalvi, & Bereby-Meyer, 2014). The lack of relation between the frequency of lying and the lie scale may indicate that participants were not so driven by the urge to hide or misrepresent data. Another argument that speaks in favor of "truthfulness of the gathered lies" is the fact that the vast majority of the lies we gathered were self-oriented lies. Should participants be driven by the sole need to present themselves in a desired way, they would probably refrain from reporting so many of these lies. We can only assume that the factual number of lies (especially self-oriented lies) could simply be higher. We did, however, obtain very similar results to DePaulo et al. (1996) as far as proportion of lies to social interactions is concerned, which elevates our confidence in the reliability of the results.

In the conducted study we measured individual differences only once. This did not allow us to control for possible subtle variations of individual differences (e.g., Robinson, 2009). Although individual differences like self-control, self-esteem, or Machiavellianism are quite consistent over time (see e.g., Tangney, Baumeister, & Boone, 2004; Trzesniewski, Donellan, & Robins, 2003; Gunnthorsdottir, McCabe, & Smith, 2002), future studies could benefit from including repeated measures of individual differences. Finally, we acknowledge that the sample size of this study is not large. Future studies focused on the proposed typology could benefit from larger samples and diverse methodological approaches.

Individual differences are an important but not sole contributor to lying behavior. Research on situational determinants has also provided valuable insight on circumstances that are "dishonesty triggers" (e.g. Grover & Hui, 2005; Shalvi, Eldar, & Bereby-Meyer, 2012). Doubtlessly, future experimental designs could provide us with more profound insight on the proposed typology of lies. It would be useful to define the circumstances in which a given

type of a lie may occur and what other individual differences may be related to proneness to use a given type of lie. It is difficult to include all the psychological variables that could be related to chosen types of lies in one project. We think that future studies could focus on personality traits or other psychological variables that may be related to other-oriented beneficial and protective lies, as well as Pareto protective and Pareto beneficial lies. Both short-term and long-term consequences of beneficial and protective lies may also be a fruitful area for new research. Future studies can verify in a cross-cultural setting whether the frequency of the different types of lies is robust across cultures. There are cross-cultural differences in the acceptance of different types of lies (e.g., Cantarero et al., 2017). Additionally, results show that in cultures with higher rates of corruption, tax evasion, and fraudulent politics, people tend to deceive more than in countries where rule violations are low (Gaechter & Schultz, 2016). It would be interesting to see if the proportion of the use of beneficial lies to protective lies changes as a function of the prevalence of rule violations in a country. What is more, research shows that there are individual differences related to a general tendency to behave dishonestly. For example, the honesty-humility factor was found to relate to a general propensity to engage in dishonest behavior (Hilbig & Zettler, 2015). Future studies may test whether the typology of lies we propose and its relation to individual differences may be extended to dishonesty in general.

Our typology of lies gives a more detailed categorization of lies. What is more, the gathered data support the two-dimensional framework that produces six types of lies. This new approach to categorization of lying shows that it is not only lying in general that should be related to certain individual characteristics, but that this relation is more complex. To obtain a more precise and accurate picture of the relation between individual differences and lying, lies of different types of motivation and beneficiary are taken into consideration. Our

pioneering model helps to approach the study of lies more systematically and to formulate more nuanced hypotheses.

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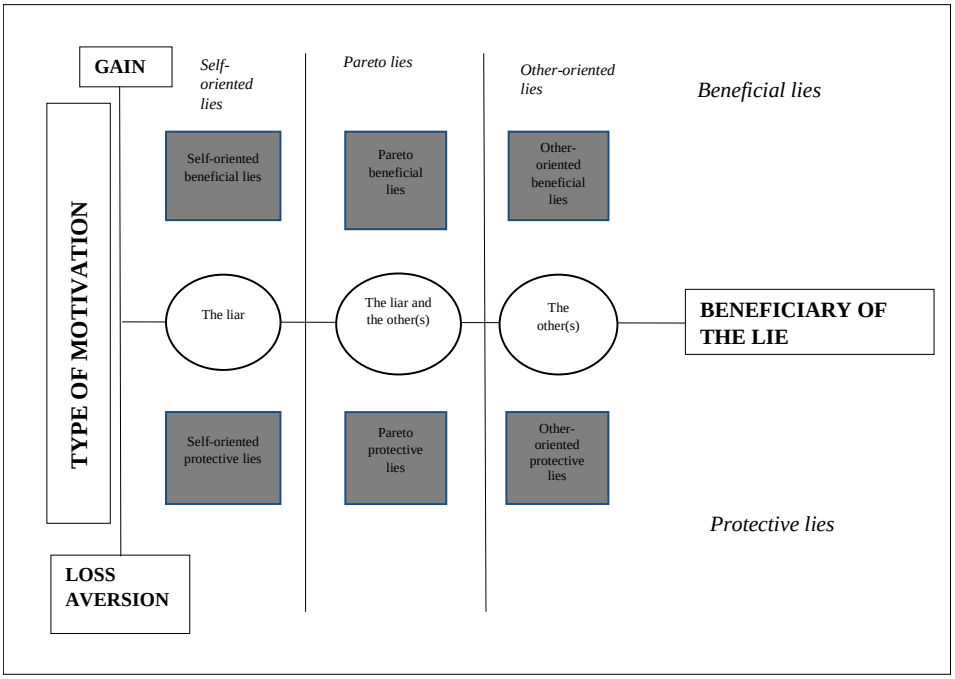

Figure 1. Types of lies in everyday life depending on the motivation of the liar and the beneficiary